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ABSTRACT

In 1990, a follow-up study was conducted of former students from the Adult Basic Education (ABE) and General Educational Development (GED) programs in Washington community colleges to assess the impact of these programs on the students. Data were gathered from the Student Management Information System and from interviews with 182 students who left the program at the end of the winter 1989 quarter. The interviews were conducted by the State Superintendent of Public Instruction 15 months after the students had left the program. Study findings included the following: (1) the most frequently cited goal for enrolling in the program (given by 77% of the respondents) was to "feel better about myself"; (2) 80% of the respondents for whom improving basic skill was an important goal stated that they had met this goal either partially or completely; (3) of the respondents who had enrolled to prepare for further education, 21% indicated that they had met this goal completely, and 35% stated that they had met the goal at least partially; (4) former students in the 25 to 30 year old age group were the least likely to have pursued further formal education since leaving the program; (5) 50% of the respondents for whom goals related to employment were important indicated that they had partially or somewhat met their goals; (6) 30% of the respondents indicated that they were earning more money after the program, and, of this group, 78% attributed the increase to skills gained in courses; and (7) 77% of the respondents stated that life had changed for the better since first starting the classes. Student demographic data and a discussion of the interview methodology are appended. (GFW)

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Operations
Report
No. 91-1

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# ADULT BASIC EDUCATION IN WASHINGTON COMMUNITY COLLEGES

A Follow-up Study

Report prepared by the
State Board for Community College Education
Based on Interviews Conducted by the Office of
the State Superintendent of Public Instruction

March 1991

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The study would not have been possible without the cooperation of the 182 former students who participated in the interviews and the 17 basic skills instructors who conducted the interviews. In addition, Jan Marks and Nancy Billingsley of the Adult Education Program at Clark College provided administrative support throughout the data gathering process.

The SPI staff designed the interview process with assistance from an advisory committee. Contributions of the members of that committee, listed below, are acknowledged:

* Nancy Billingsly, Director of the Adult Education Program at Clark College
* Roger Soder, Adult education instructor, at Tacoma Community House
* Bill Sperling, Director of the Washington State Adult Basic Education Center for Program and Staff Development
* Loretta Seppanen, Manager for Research and Analysis, State Board for Community College Education

The Developmental Education Research Review group assisted the study with feedback on the initial draft report. Group members are:

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# EXECUTIVE SUMMARY

A follow-up study of former students of the community college Adult Basic Education (ABE) and General Educational Development (GED) programs was undertaken to assess the impact of these programs on students. The staff of the State Board for Community College Education (SBCCE) conducted this analysis.

## BACKGROUND

This report is based on an analysis of interviews with 182 students who had left the ABE and GED programs in Washington community colleges at the end of winter quarter 1989. The Superintendent of Public Instruction's Adult Education and Literacy Programs staff conducted the interviews about 15 months after the students left the program.

It is likely that the 182 former students interviewed were somewhat more successful than the average student leaving the ABE and GED programs. The skewed results occurred because the researchers experienced difficulty in obtaining a random sample of former students. A discussion of the considerations in extrapolating from the interviews to all former ABE and GED students may be found in Appendix B.

## KEY FINDINGS

**Why do students enroll in ABE and GED programs?** Findings about students goals must be viewed in light of the fact that information on goals was asked after the students left the program. Such post-experience questioning may not reflect student opinion while enrolled.

The goal most frequently selected by respondents for enrolling in the ABE and GED program was "to feel better about myself." Other literacy program studies which have asked students about their motivation for participation have also found a large number of students citing increased self-confidence or having "a better life" as their goal (Lytle and Wolf, 1989, p 27).

While it is commonly expected that all ABE and GED students enroll to gain basic skills in reading, writing, math or spelling, about 25 percent of the former students interviewed said those areas were "not very important" reasons for enrolling. Nevertheless, gaining basic skills was the second most important reason for being in the ABE or GED program.

Obtaining the GED was an important goal for 65 percent of the respondents. Employment and self-sufficiency goals were important for about half the group.

Some literacy educators have hypothesized that literacy practice has a social, economic and political nature stemming from differences in communities and cultures. Thus reasons for participating in an ABE or GED program might vary for different groups. (Holland as summarized in Lytle and Wolfe, 1989). This study found differences consistent with this hypothesis. Specifically the study found race and language group differences in the importance placed on gaining basic reading and writing skills and obtaining the GED.

**What are students like who attend ABE and GED programs?** As a group, ABE and GED students are about the same age as other students (median age of 28) and are equally likely to have family responsibilities, with about 35 percent being parents. They are less likely than other students to be working (42 percent of the ABE and GED respondents were employed). Students enrolled in ABE and GED courses represent a more racially and ethnically diverse population than the students enrolled in other college programs.

Students enrolled in ABE and GED courses vary greatly in their entry-level skills and abilities. Some had completed high school prior to enrollment; most had not. While many of the ABE and GED students interviewed came from families without post-secondary experience, about 21 percent had family members who not only had experience in college but had completed at least a bachelor's degree.

**How long do students stay with their ABE or GED program?** The amount of time in the program varied significantly among the students. One large group tended to stay in the program for just a quarter -- about 41 percent. A small group of about 17 percent stayed two quarters. The other 42 percent stayed a year or more before they left - some staying continually and others stopping-in and stopping-out from quarter to quarter.

**What do students achieve as a result of the ABE and GED program?** About 27 percent earned either the GED or a high school diploma. Almost all interviewed (91 percent) said they felt better about themselves as a result of being in the program. About three in four said they were more confident as a result of their courses.

Of those for whom it was important to gain basic skills from the ABE or GED program, about 27 percent completely met their objective and 55 percent partially met their goal. Reading more as a result of the program was a gain for more than half (58 percent) of those interviewed.

**What happened after students left the ABE or GED program?** About 32 percent participated in some type of education after leaving the program, mostly at a community college. There was a 38 percent gain in employment after completion and a 28 percent decline in dependence on public assistance among those interviewed.

**What do students say about the program they attended?** Most students gave their program high marks with 89 percent saying their experience was "good" or "very good". The recommendations for program improvement often centered on the need for more individualized attention.

## SUMMARY OF OUTCOMES

Those students who left the Washington community college ABE and GED programs after winter quarter 1989 and were interviewed in the summer of 1990 can be described in four categories based on their outcomes:

- **Life Changes from Gaining Skill and Self-esteem (20 percent)**: Gained skills which lead to better jobs, further education and greater confidence in all aspects of life.
- **Some Gain in Skill and Self-esteem (55 percent)**: Made moderate gains in all or most areas, but typically earned the same as before, stayed on public assistance or did not continue education.
- **Self-esteem Gain (15 percent)**: Made gains related to feeling better about themselves, but gained little in terms of cognitive or performance skills.
- **Little, if Any, Gain (10 percent):** Made little, if any, gain in self-esteem or skills.

## POTENTIAL ACTION ISSUES

The following four potential action issues will be addressed by the community college system in the next six months to determine if and how the system can respond to each. The Washington Association of Community College (WACC) Student Outcomes Task Force will prepare a report on the proposed action steps.

**Do student and program goals match?** The recent ERIC review of literature on adult literacy program evaluations indicates that a conflict may exist between the Congressional emphasis on the goal of educating adults to enhance their economic independence and the state and local program goals which emphasis movement through the schooling hierarchy and acquisition of literacy skills for social mobility (Lytle and Wolf, 1989). The respondents in this study emphasized the latter skills more than the former. Further, if their post-experience comments about entering goals are accurate, they emphasized self-esteem goals more than the GED or basic skills gains. About a quarter reported no interest in basic skill gains.

Is there a conflict between these student goals and external and institutional goals for the programs? Other studies have found contrasting definitions of success among program constituencies. If differences exist, what impact do they have on student success?

**Can the programs provide even more individual attention?** ABE and GED programs attempt to provide individual attention to student needs, but are limited in terms of staff resources. Individual attention is typically provided with the aid of volunteer tutors. Interviewed students expressed a need for even more individualized attention.

Ethnographic studies of uses of literacy in different cultural contexts have revealed differences based on communities or cultures (Lytle and Wolf, 1989, page 10). In this study, students from different ethnic and race groups varied in the importance they placed on program goals, especially cognitive goals. Do the ABE and GED programs have sufficient resources to provide the individual attention to different literacy purposes, demands and processes based on cultural differences?

**Are student achievements at the expected levels?** There are no norms for goal achievement in ABE and GED programs. Achievement level information from programs in other states cannot be compared to this study. Colleges can, however, address whether current expectations are realistic in light of both the type of students served and the resources available to serve them. The students who enroll in ABE and GED programs come with quite diverse backgrounds in terms of learning ability. Many face hurdles such as low self-esteem, especially related to academic achievement. What can realistically be expected of these students? Should those who can only expect to gain affective skills be admitted?

Resources devoted to the ABE and GED programs in community colleges are limited. More than half the instruction is done by part-time staff. The ABE and GED classes are considerably larger on the average than are college-level English or math courses. Given these constraints, are skill gains beyond that shown in the findings realistic? Would additional resources result in more skill gains?

**Should students place more value on high school completion?** Interviewed GED students, of course, ranked gaining the GED as very important. The former ABE students who saw a need for recognition of high school skills also tended to regard the GED, rather than the high school diploma, as the appropriate goal. Few of those interviewed sought the high school diploma which, like the GED, can be gained at the community college. Typically preparation for the high school diploma would require more months of study than preparation for the GED.

There is some evidence that the high school diploma is the preferred measure of skill attainment by the military, colleges, and employers. Should community college ABE students be told of the advantages of the high school diploma versus the GED? Should those who enroll in GED preparation courses be encouraged to enroll for high school completion courses?

## CONCLUSIONS

This study has provided a better description of ABE and GED program students than has been available in the past. The study also raises issues that will be addressed during the coming several quarters.

By addressing these issues Washington community colleges will attempt to determine if and how it can improve ABE and GED student outcomes. The community colleges are simultaneously addressing similar outcomes issues for vocational and transfer students.

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# CONTEXT OF THE STUDY

## PROBLEM STATEMENT

A follow-up study of former Adult Basic Education (ABE) and General Educational Development (GED) students in community colleges was undertaken to assess the impact of these programs on the students. The State Superintendent of Public Instruction's Adult Education and Literacy Programs (SPI) funded the interviews and the State Board for Community College Education (SBCCE) staff completed the analysis.

More than 7,000 students enroll in community college ABE and GED courses each quarter. About half leave at the end of the quarter, 35 percent of them to return later, but most of those who leave (65 percent) leave permanently. Students enroll in ABE and GED courses free of charge. Funds for the courses come both from the Washington State legislature as part of the allocation to community colleges, and from the federal government primarily under the Adult Basic Education Act. The latter funds are provided to the community colleges via SPI.

Currently Washington community colleges are engaged in a series of activities designed to assess and improve the learning outcomes for their students. While no state-level study of ABE or GED students had been designed or planned for 1990-91, the availability of interview data from SPI allowed SBCCE staff to move ahead on the effort to describe the outcomes for ABE and GED students without waiting for other research projects to be completed. This analysis and the four other studies being conducted by SBCCE staff form a partial response to the Higher Education Coordinating Board's (HECB) request for a systematic approach to student outcomes.

The SBCCE analysis was conducted both to provide a baseline for further research and to identify the strengths and weaknesses of the community college program. Assessing whether students achieve the objectives expected of them is one method of ensuring "high standards of excellence" as required in the Community College Act of 1967.

During the next several quarters, Washington community college system will discuss the report findings to determine if and how it can address the issues raised in the report. The Washington Association of Community College (WACC) Student Outcomes Task Force will prepare a report on the action steps developed as a result of that discussion.

## DESCRIPTION OF ABE AND GED STUDENTS

With the exception of being more racially and ethnically diverse and being less likely to be employed than other students, the 7,000 ABE and GED students enrolled in community colleges look a lot like other community college students. Demographic information on ABE and GED students is reported in Appendix A.

While there is similarity in the age, sex, and family status of ABE and GED students and others enrolled at the colleges, there is a major difference in terms of prior educational attainment. Most community college students have a stronger educational background than students in ABE and GED courses. About 70 percent of the ABE and GED students come to the program functionally illiterate. They are people who have not attained ninth grade skills. Among the ABE group are those with severe learning or other disabilities. Some who were interviewed had difficulty understanding the questions asked of them.

Thirty percent of those in ABE and GED programs did not complete high school with their class and plan to take the GED test instead. This group includes students with excellent basic skills as well as those who need help with their math and English before taking the test. Most students in the ABE and GED have not completed high school, though some did - including some of those interviewed.

# STUDY DESIGN

SBCCE staff designed this analysis to determine the impact of ABE and GED instruction on former students. Interviews with 182 former students provided most of the data for analysis. In addition, SBCCE used information from the Student Management Information System (SMIS) for this report.

The interviews were conducted as part of an SPI study directed by its contractor, John Mahaffy. Details of the interview process and a copy of the questionnaire are contained in Appendix B.

Those interviewed were students who left the ABE and GED program at the end of winter quarter 1989 and had not returned to the program in a year's time. Interviewers had difficulty contacting all students randomly selected to be interviewed. Although the research was designed to study only ABE and GED students, coding errors lead to the inclusion of a high proportion of English-as-a-Second-Language (ESL) students. It is assumed that the educational backgrounds and motivations of ESL students differ from those of ABE students.

As a consequence of both the inclusion of ESL students and the lack of a random sample, the interviewed sample may not represent all students who leave the ABE and GED program. It is likely that those interviewed were somewhat more successful than the average student leaving the ABE and GED programs. Still these interviews provide the best information available on the ABE and GED students. For more details on considerations when extrapolating from the interview sample to all ABE and GED students, see Appendix B.

The interviews covered the following topics:

- Student Motivation and Achievements
- Preparation for Employment
- Personal and Family Benefit of Attendance
- Program Evaluation
- Demographic Characteristics

# FINDINGS

The findings address three issues:

- Why do students take ABE and GED courses?
- What impact did the program have in terms of: quality of life, educational attainment and plans, employment and self-sufficiency, functional literacy, and community participation?
- How did students assess the program?

## STUDENT GOALS

The former students were asked to think back to when they first began taking ABE or GED classes and to the goals they wanted to achieve. They were then given a list of goals (see Table I) and asked to rate these are "very important" "somewhat important" or "not very important." Asking goal questions after leaving a program may lead to different responses than asking the same questions at the time of initial enrollment.

Respondents in this interview were similar to respondents in several other studies summarized in a recent ERIC literature review of adult literacy assessment programs (Lytle and Wolfe, 1989) in that they ranked an affective goal, "to feel better about myself", as most important. Goals which ranked next in importance were the educational goals of improving basic skills, preparing for more education and successfully completing the General Educational Development Test (GED). Employment and self-sufficiency goals ranked lowest in importance. About half (53 percent) said making more money was a very important goal, but less than half rated the other employment related-goals as very important as shown in Table I.

**TABLE I**
**RANKED GOALS OF FORMER ABE AND GED STUDENTS THAT WERE VERY OR SOMEWHAT IMPORTANT**

| Goals | Very Important | Very or Somewhat Important |
|---|---|---|
| Quality of Life | | |
| Feeling better about myself | 77% | 92% |
| Education | | |
| Improved math | 65% | 88% |
| Improved spelling | 60% | 78% |
| Improved reading | 60% | 76% |
| Preparing for more education | 59% | 65% |
| Earning a GED | 59% | 65% |
| Improved writing | 58% | 66% |
| Earning a HS diploma | 12% | 16% |
| Employment and Self-Sufficiency | | |
| Making more money | 53% | 66% |
| Getting a better job | 41% | 53% |
| Preparing for job training | 29% | 44% |
| Improving on job | 17% | 26% |

**Differences in Importance of Goals:** Not all students interviewed agreed on the importance of these goals. Differences were evident related to the importance of basic skill goals such as reading and writing when former students were grouped by language background, race and ethnicity as shown in Table II. The importance of the GED also varied.

**TABLE II**
**PERCENT OF FORMER ABE AND GED STUDENTS SAYING THE GOALS WERE VERY IMPORTANT FOR NON-NATIVE SPEAKERS OF ENGLISH AND BY RACE OR ETHNIC GROUP**

| | White | Asian Pacific Islander | African American | Native American | Hispanic | Non-Native Speakers |
|---|---|---|---|---|---|---|
| Improved Reading | 58% | 91% | 77% | 55% | 59% | 73% |
| Improved Writing | 48% | 86% | 71% | 62% | 71% | 71% |
| Earning a GED | 94% | 62% | 85% | 75% | 71% | 90% |

All three goals in Table II were more important for non-native English speakers than for native speakers.

These differences are consistent with the hypothesis that the role of literacy - of reading and writing - vary by culture (see summary discussion in Lytle and Wolfe, page 10). Proponents of this view suggest that programs such as ABE and GED training should acknowledge these various uses of literacy.

## PROGRAM IMPACTS

**Education Impacts:** The interview included three measures of education-related gains: (1) basic skills gains - math, spelling, reading, writing; (2) GED and high school diploma attainment; and (3) participating in further education.

(1) **Basic Skill Gains:** About 80 percent of those interviewed for whom basic skill gains were important met their goals partially or completely as shown in Table III.

**TABLE III**
**DEGREE OF GOAL ACHIEVEMENT FOR FORMER ABE AND GED STUDENTS RELATED TO READING, WRITING, SPELLING AND MATH**

| Goal | Completely Achieved | Partially Achieved | Not Yet Achieved |
|---|---|---|---|
| Improved Math | 31% | 46% | 23% |
| Improved Spelling | 25% | 55% | 20% |
| Improved Reading | 26% | 58% | 17% |
| Improved Writing | 24% | 60% | 16% |
| Average | 27% | 55% | 19% |

Those who had said they had minimal or no skill gain realized that they still needed to learn more to function at their desired level. About half of all former ABE and GED students interviewed said that since they had left the program, they had felt a need for more training in these basic skill areas as shown in Table IV. Those most likely to see a need for more training were those who gained the least (moderate or low achievers) while enrolled.

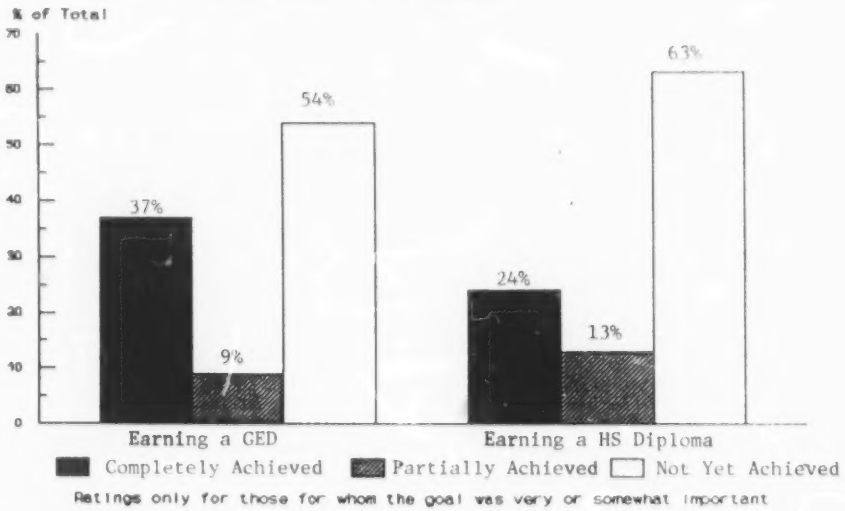
**TABLE IV**
**PERCENT OF FORMER ABE AND GED STUDENTS WHO REPORTED A NEED FOR MORE BASIC SKILLS TRAINING**

| | More Training | | | |
|---|---|---|---|---|
| Skills Area | Total (N=184) | High Achievers (N=33) | Moderate Achievers (N=75) | Low Achievers (N=76) |
| Writing | 59% | 39% | 65% | 62% |
| Math | 55% | 39% | 63% | 53% |
| Reading | 51% | 39% | 56% | 58% |

Note: N=184 refers to a weighted total of the 182 respondents.

(2) **GED and High School Diploma Attainment:** While 37 percent of those interviewed who wanted a GED said they achieved their goal, only 21 percent of the former ABE and GED students interviewed had attained the GED and 6 percent had earned a high school diploma since starting the program. Another 19 percent of the former students expected to earn the GED or diploma in the next year.

GRAPH I
DEGREE OF FORMER ABE AND GED STUDENT'S GOAL ACHIEVEMENT RELATED TO EDUCATION BASED ON WINTER 1989 FOLLOW-UP




(Note: Interviewers did not ask if former ABE and GED students already had the diploma before enrolling. Estimates are that up to four in ten already had a high school diploma or GED before enrolling in the program.)

Former ABE and GED students from all age groups were equally interested in completing a GED, but those aged 25 to 39 were slightly more likely to attain the GED than younger or older former students.

(3) **Participating in Further Education:** Of the former students interviewed who said that preparing for more education was an important goal, about 21 percent said they completely met this goal and 35 percent partially met it. About three in 10 former ABE and GED students had attended some type of training during the 15 months since leaving as shown in Table V. Forty-nine percent said they planned to enroll within the next year.

**TABLE V**
**PERCENT OF FORMER ABE AND GED STUDENTS ENROLLING OR PLANNING TO ENROLL IN FURTHER EDUCATION**

| Where Attended | Attended Since Left | Plan to Enroll in One Year |
|---|---|---|
| Community College | 16% | 29% |
| Vocational Technical School | 8% | 6% |
| Business College | 2% | 2% |
| Apprenticeship | 7% | 7% |
| Four Year College | 6% | 3% |
| Other | 2% | 4% |
| Total | 32% | 49% |

Note: A completer may have enrolled or planned to enroll in more than one program.

Community college education was the most common choice for those who continued or planned to continue their education. The community college not only offers more of the basic skills courses which ABE and GED students need than any other adult education providers, but also enrolls students in academic and vocational courses without a high school diploma or GED.

Both age and starting enrollment date were factors in whether the former ABE and GED students continued or planned to continue their education as shown in Table VI. Those most likely to attend further training were the ones who had just started the program. Former ABE and GED students in the 25 to 30 age-group were least likely to have enrolled since leaving the program.

**TABLE VI**
**PERCENT OF FORMER ABE AND GED STUDENTS WHO HAD ENROLLED IN FURTHER TRAINING SINCE LEAVING THE PROGRAM**

| | Enrolled Since Leaving |
|---|---|
| When started | |
| Winter 1989 (N=69) | 51% |
| Winter to Fall 1988 (N=44) | 32% |
| Before 1988 (N=71) | 13% |
| Age | |
| Under 25 (N=44) | 41% |
| 25-39 (N=73) | 18% |
| 40+ (N=64) | 44% |
| Total | 32% |

**Employment and Self-sufficiency Impacts:** Employment outcomes were measured in terms of: general goal achievement, increased earnings, changes in employment status, need for additional training, sense of self-confidence at work, and movement off public assistance.

(1) **General Employment Goal Achievement:** Half the former ABE and GED students for whom employment-related goals were important had partially or somewhat met their goals as shown in Table VII.

**TABLE VII**
**DEGREE OF GOAL ACHIEVEMENT OF FORMER ABE AND GED STUDENTS RELATED TO EMPLOYMENT**

| Goal | Completely Achieved | Partially Achieved | Not Yet Achieved |
|---|---|---|---|
| Making More Money | 15% | 31% | 55% |
| Getting a Better Job | 18% | 25% | 57% |
| Improving on the Job | 29% | 54% | 16% |
| Preparing for Job Training | 19% | 30% | 51% |

(2) **Increased Earnings:** When asked to compare the money they make now and the money they made when they began classes, 30 percent of the sample reported making more money -- this gain included those who had not worked before. Seventy-eight percent of that group said the skills gained in ABE or GED courses were the reason for earning more money. Female former students were least likely to have achieved the objective of making more money with 71 percent responding "not yet." Two-thirds of those 40 and older reported they had not yet made more money.

Nearly all (92 percent) the youngest students interviewed (under age 25) attributed increased earnings to ABE or GED course work. Most of their gains in income can probably be accounted for by their movement into full-time employment (62 percent change) after leaving the program.

(3) **Changes in Employment Status:** At the time of the interview, 15 months after leaving the program, 58 percent of all former ABE and GED students were employed, a 38 percent gain. Women and those in the 25 to 39 age group were most likely to increase their employment gains as shown in Table VIII. Most of the employment gains came from those who had been unemployed or were full-time homemakers at the time they first enrolled. Gains by race and ethnic group are not included here due to the small sample size.

**TABLE VIII**
**CHANGE IN EMPLOYMENT BEFORE AND AFTER ABE AND GED COURSES**

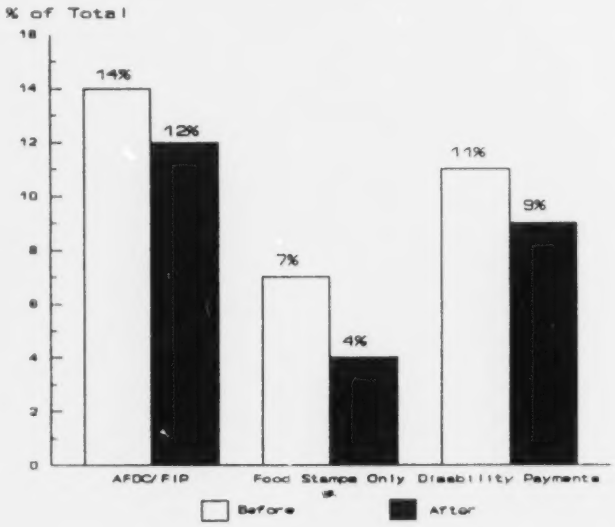
| Age | Employed Before | Employed After | Percent Change |
|---|---|---|---|
| Under 25 (N= 44) | 56% | 76% | 36% |
| 25-39 (N= 73) | 33% | 52% | 58% |
| 40+ (N= 64) | 44% | 52% | 18% |
| Total (N=184) | 42% | 58% | 38% |
| Men (N= 64) | 60% | 80% | 33% |
| Women (N=115) | 32% | 46% | 44% |

(4) **Need for More Training:** Half of the interviewed students (51 percent) said that after leaving the program they realized a need for more basic skills training for job preparation. Those who had gained the most, in terms of basic skills such as reading and math, were the most likely to see a need for more job training (61 percent). Still, half of those who had made no gains in basic skills said they now saw a need for more job preparation training.

(5) **Sense of Self-Confidence:** About 55 percent of the former ABE and GED students interviewed who worked said their sense of self-confidence in using basic skills at work increased since enrolling in the program. The interviews did not clarify whether those who did not gain confidence already had a high level of confidence in the work setting or that they continued to lack confidence.

(6) **Movement Off Public Assistance:** Thirty-two percent of the former ABE and GED students were receiving public assistance while in the program and that dropped to 25 percent after they completed the program, a decline of 28 percent.

GRAPH II
PERCENT OF FORMER ABE AND GED STUDENTS
RECEIVING PUBLIC ASSISTANCE
BASED ON WINTER 1989 FOLLOW-UP




**Functional Literacy Impact:** Former ABE and GED students were asked if they felt more confident in using their skills in a variety of settings listed in Table IX. A sizable minority of the former students did not read the paper, work, write checks, balance their checkbook, pay bills, or use a bus schedule after completing the program. Thus, in reading Table IX it is appropriate to say that 45 percent of those who write checks said they felt more confident in writing checks. Confidence was higher in the general categories than for specific everyday situations.

**TABLE IX**
**PERCENT OF FORMER ABE AND GED STUDENTS SAYING THEY WERE MORE CONFIDENT USING BASIC SKILLS**

| Basic Skill Area | % of Those Who Engage in Activity |
|---|---|
| Generally at home | 56% |
| Reading a newspaper | 56% |
| Generally in my job | 55% |
| When paying bills | 50% |
| When writing checks | 45% |
| When talking with my doctor | 43% |
| When balancing my checkbook | 43% |
| When using the phone book | 41% |
| When using the bus schedule | 36% |

For all items except "generally at home", between 20 and 40 percent of respondents did not engage in the activities.

Functional skill gain was highest for those for whom English is a second language. Skill gains for the non-ESL students interviewed ranged from 10 to 20 percent less than the numbers reported in Table IX in each category).

About four in ten former ABE and GED students said they had identified a need for more training in everyday skills such as those listed in Table IX since leaving the program. Interestingly, those who had the greatest gain in basic skills such as math and reading were the most likely to see a need for more training in life-coping skills (58 percent), while those who made no gains in those areas were least likely to see a need for more training (37 percent).

A little more than half (58 percent) of the former ABE and GED students read more, but fewer than half (40 percent) increased their library use since starting the program. Seventy-two percent of the non-native English speaking students reported using the library more and 47 percent reported reading more.

**Quality of Life Impacts:** According to those interviewed, the most important reason for being enrolled in ABE and GED programs was "feeling better about myself." Not only was this the most important goal, but it was the one that was achieved by more students than any other goal. Slightly less than half of the former ABE and GED students (47 percent) said they completely achieved this goal, 44 percent partially achieved the goal. About 9 percent said they had not yet achieved the goal.

Non-native-English speaking students were more likely than others to have completely achieved their goal of feeling better about themselves.

The interview included several other related quality-of-life measures. Former ABE and GED students were asked to indicate if their lives had changed in any way since they first started the ABE or GED courses. Questions and responses are shown in Table X.

Improvement was greatest related to how former students felt about themselves since starting the program. Of the group that had children, 58 percent said they were more confident in helping them with school work than before starting the ABE and GED programs. Improvement was least related to the ability to get needed community services.

**TABLE X**
**PERCENT OF FORMER ABE AND GED STUDENTS WHO SAID LIFE CHANGED FOR THE BETTER SINCE FIRST STARTING CLASSES**

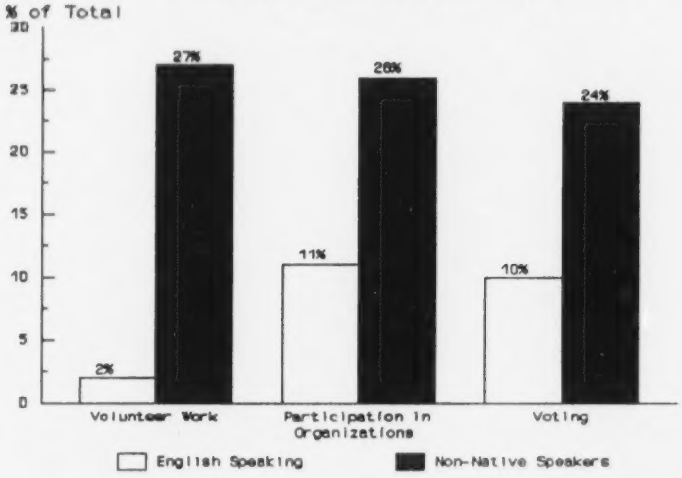
| Areas of Life Change | Life is Better |
|---|---|
| How you feel about yourself | 77% |
| How confident you feel in general | 76% |
| Your life in general | 61% |
| Helping my children with school work (40 percent responding) | 58% |
| How well you get along with others | 45% |
| Satisfaction with your home and family life | 48% |
| Able to get needed services in my community | 37% |

Life changes in general were more positive among Asian Pacific Islander (83 percent) and Hispanic students (71 percent) than for others.

When asked to describe if their life was better or worse as a result of attending the program, 83 percent of the respondents said that life was "much" or "somewhat better".

**Impact on Community Participation:** Increased student involvement in their communities is one of the ABE program goals. Less than a fifth of the ABE and GED students increased their participation in the community after finishing the ABE or GED courses. Non-native-English speakers increased their community involvement the most, which may be attributed to increased proficiency in English.

GRAPH III
PERCENT OF FORMER ABE AND GED STUDENTS
WHO INCREASED COMMUNITY INVOLVEMENT AFTER LEAVING
BASED ON WINTER 1989 FOLLOW-UP




## STUDENT ASSESSMENT

The former ABE and GED students gave high marks to their experiences in class. Fifty-two percent stated that their experience in ABE or GED had been "very good". An additional 37 percent stated it had been a "good" experience. Only 3 percent said it was a "poor" or "very poor" experience, and 8 percent stated it was "fair".

When asked what was best about the education they had received, the most common response (25 percent of respondents) was the quality of the teachers, tutors and staff. Former ABE and GED students would like to see the program improved by adding more staff - both teachers and tutors - and by more individualized attention to their learning needs. Several commented on the difficulty of working in a classroom with so many other students who spoke a different language.

# POTENTIAL ACTION ISSUES

Four issues surface in a review of the findings:

- Is greater congruence between student and program goals needed?
- Can and should program changes be implemented to respond to a need for individual attention or attention to culturally based differences in literacy purposes, demands and processes?
- How can realistic expectations for student achievements be shaped and shared?
- Should program changes be implemented to motivate students to strive for higher goals especially related to high school completion?

**Student and Program Goal Match**

The findings suggest a possible conflict between student goals for enrollment and external and institutional expectations about program goals. Interviewed former ABE and GED students said when they enrolled they most wanted to achieve an affective goal: "feeling better about myself." They expressed less interest in education-related goals, such as gaining basic skills and preparing for more education. They were also less interested in employment and self-sufficiency goals, such as making more money and getting a better job.

Congressional emphasis has been on the goal of educating adults for economic independence. A recent national review of goals as seen at the state and local level suggests an emphasis there on moving students through the schooling hierarchy and acquisition of basic skills for social mobility (Lytle and Wolf, 1989). Is their a conflict between student goals and program goals in Washington?

**Meeting Student Needs for Individualized Attention**

Interview responses suggest a need for even more individualized attention than is currently provided in the ABE and GED programs. When asked what needed to be improved about the ABE and GED program, one of the most frequent responses was the need for more individualized attention. It is possible that ABE and GED students possess a high need for one-on-one instruction.

Students also varied in their external situations with some but not all respondents being both parents and workers. Attending to the role and time conflict issues of these busy students may require individual attention. Another factor potentially requiring individual attention is the different motivations for being in the program, especially related to cognitive skills, which varied by language and race and ethnic background.

The typical ABE and GED course has more students per teacher than college-level English or math courses. Given that constraint, can the need for individual attention be met? Individual attention is currently provided by volunteer tutors. Do the programs have sufficient resources to coordinate more volunteers. Can volunteers meet the student need?

**Expectations for Student Achievement**

There are no established norms for goal achievement for former ABE and GED students. No other states have gathered data which can be used as a comparison to the findings of this study. Can the community college system establish realistic expectations for student achievement that will be shared by those who provide funding for the ABE and GED programs?

What are the realistic achievement goals given the abilities of entering students and program resources? It is possible that the level of gain achieved in the Washington community college program is the maximum that can be expected, given the students' abilities. Should students who cannot be expected to make cognitive gains be admitted to the program?

ABE and GED programs are not rich in resource. Due to limited funding, more than half the instruction is offered by part-time faculty. Class sizes are considerably larger than in college-level English or math courses. Given these constraints, the gains represented in these findings may be as high as should be expected.

Despite a lack of common expectations for ABE and GED student achievement, many have developed their own expectations. Findings which some may find inconsistent with their expectations include the level of goal achievement. Goal achievement for those interviewed was lower than is typically found for other former community college students. For example, 66 percent of the former vocational students from the class of 1987-88 completely met their objectives and only 2 percent had not met their objectives. That compares to 47 percent of the ABE and GED students who completely met their top-ranked goal to feel better about themselves, and 9 percent who had not achieved the goal.

Other findings that may be inconsistent with expectations were that:

- Fewer than half made functional literacy gains such that their level of confidence was greater in everyday life situations than before enrolling in the courses.

- 39 percent said they still needed training to cope with everyday life situations.

- 21 percent of the former ABE and GED students interviewed had attained the GED and 6 percent had earned a high school diploma since starting the program. That compares to about 65 percent of the 182 students who wanted to earn a GED and 16 percent who wanted a diploma.

About 30 percent of those interviewed left the program without gaining any basic skills. What are the characteristics of those who gained little? They tend to be younger - under 25 years of age - and living at home. One third of this group had a parent or sibling who already had a four-year college degree. Did this group have higher standards against which they were measuring whether they had made gains or did they really gain less than others? Did they perceive that they have additional chances to get education and thus make little effort to gain skills at this time? The interview data do not address these issues. What are realistic goals for young students who did not gain basic skills in high school?

ABE and GED students of color were more likely than whites to have partially rather than completely met their basic skill goals. Also, Native American and Hispanic students were least likely to have reported achieving the goal of improved writing with 26 percent and 27 percent, respectively (compared to 16 percent for the total sample). Should there be an expected difference in goal attainment based on race or ethnic background?

Will students who fail to gain skills when first attending return to the college to gain those skills in the future? While some students do make this transition back to the ABE or GED program, the numbers are small. An analysis of enrollment patterns for ABE students suggest that only 11 percent of those who leave the ABE program for a year or longer will re-enroll in the community college ABE program within three years. Another 2 percent return to college-level programs. Data are not available at this time for longer-term analysis, but it is doubtful that the percentages would be substantially higher over ten or more years.

**High School Completion**

Those interviewed who sought formal recognition of attainment of high school level skills looked to the GED for that recognition. About 65 percent thought getting the GED was important compared to 16 percent seeking the high school diploma.

There is some evidence that the high school diploma is the preferred measure of skill attainment by the armed forces, colleges, and employers. Should community college ABE students be told of the advantages of the high school diploma versus the GED? Should those who enroll in GED preparation courses be encouraged to enroll for high school completion courses?

# RESEARCH ISSUES

The findings raise more questions than they answer. Further study will no doubt be required. ABE and GED students are truly a challenging population for the researcher. They are more diverse than the questionnaire designers had presumed and thus, many questions had more "no responses" than expected. Also, some respondents apparently had considerable difficulty understanding the questions even when they were aided by an understanding interviewer.

Future studies will require that many of the questions be reframed. An example is the question regarding confidence in using basic skills at work or home. Future studies need to address the confidence issue to determine if respondents making no gains were already confident, or if lack of gain meant continued low confidence.

Future research can be informed by the related ERIC literature review, **Adult Literacy Education: Program Evaluation and Learner Assessment**. That document suggests a need to be clear about the perspective taken on adult literacy before conducting research. The document summarizes four contrasting perspectives. Given the differences between GED and ABE students future studies should look at these populations separately. The SBCCE database allows for separate analysis of ABE and GED populations enrolled after Fall 1989.

# CONCLUSIONS

About 20 percent of the Washington community college ABE and GED students interviewed gained skills which lead to better jobs, further education and greater confidence in all aspects of life. Another 55 percent made moderate gains in all or most areas, but typically earned the same as before, stayed on public assistance or did not continue education.

Former students said their primary goal for enrollment was for self-esteem reasons. Those who were looking to the program for a formal recognition of attainment of high school level skills primarily sought the GED.

These findings raised four issues about the community college ABE and GED programs which will be addressed by members of the community college faculty and staff during the coming several quarters. The community colleges will attempt to determine if and how it can improve the student learning in the ABE and GED programs.

# REFERENCES

Lytle, Susan L., and Wolfe, Marcie. **Adult Literacy Education: Program Evaluation and Learner Assessment**. Columbus, Ohio: ERIC Clearinghouse on Adult, Career, and Vocational Education, 1989.

Mahaffy, John E. **Adult Basic Education Student Follow-up Evaluation**. Olympia, Washington: Adult Education and Literacy Programs; Office of the State Superintendent of Public Instruction, 1990.

Mahaffy, John E. **Impact Evaluation of Adult Basic Education Program Outcomes**. Bozeman, Montana: Division of Adult Education, Office of Public Instruction, 1983.

# APPENDIX A

# DEMOGRAPHIC CHARACTERISTICS OF ABE AND GED STUDENTS

This is a study of those who left the ABE and GED courses at the end of winter quarter 1989. Of the 7,000 students who enrolled in ABE and GED courses that term, half left. Based on follow-up data for another cohort, SBCCE estimates that most of those who left (60 percent) will not return again (based on a three year follow-up). About 5 percent of those who leave the ABE and GED programs do not leave the college, but move out of the basic skills program into college-level courses. Another 35 percent leave and then come back after one or more quarter's absence.

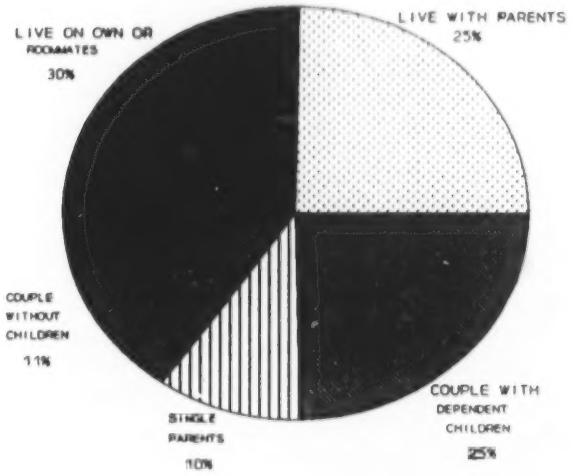
**Race and Ethnic Diversity:** There is more racial and ethnic diversity among ABE and GED students than among other community college students. Nevertheless, the majority of the ABE and GED students are White (67 percent). These students also tend to be fairly similar in age to other community college students. (See Table AI.)

**TABLE AI**
**CHARACTERISTICS OF ABE AND GED STUDENTS**

| Characteristics | Enrolled Students Winter 1989 N=7,217 | Estimated Leavers Winter 1989 N= 4,328 |
|---|---|---|
| Female | 51% | 51% |
| Ethnicity | | |
| Asian Pacific Islander | 7% | 6% |
| Hispanic | 14% | 17% |
| African American | 7% | 8% |
| Native American | 4% | 5% |
| White | 67% | 65% |
| Age | | |
| Under 20 | 15% | 14% |
| 20-24 | 22% | 20% |
| 25-29 | 20% | 18% |
| 30-39 | 26% | 26% |
| 40-49 | 11% | 14% |
| 50+ | 7% | 8% |
| Limited English | 7% | 7% |
| Beginning Quarter | | |
| Winter 1989 | 47% | 41% |
| Fall or Summer 1988 | 25% | 17% |
| 1987-1988 | 11% | 13% |
| Before 1987 | 24% | 29% |

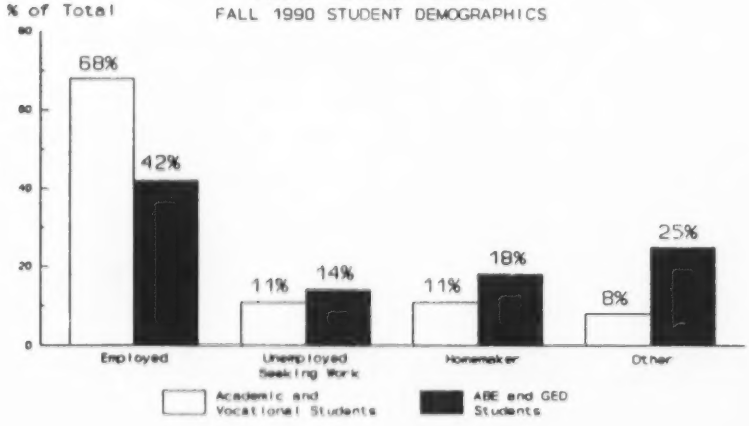
About 41 percent of those who left the ABE and GED programs in winter 1989 had enrolled for only one term. In the interviews, several who left commented that they left due to work conflicts. Those who stayed for a single term were the most likely to plan to return to college, though in a year's time they had not returned to the ABE or GED program. About a third had started the program within the past two years and nearly a third started more than two years before leaving. Some of those who started before winter 1989 may have "stopped" and returned again before winter 1989, but most stayed enrolled continuously, with the exception of summer term.

GRAPH AI
FAMILY STATUS OF ABE AND GED STUDENTS
BASED ON WINTER 1989 FOLLOW-UP




While SBCCE has no data on the family or employment status of ABE and GED students in winter 1989, the demographic information from the survey provides a source for making estimates. Based on these estimates, a substantial minority (35 percent) of ABE and GED students, like other students, were parents and 10 percent were single parents. Nearly two-thirds of the African American and Native American students in the study were parents (60 percent and 63 percent, respectively) while only 14 percent of the whites interviewed were parents.

GRAPH AII
EMPLOYMENT STATUS OF ABE AND GED
VS ACADEMIC AND VOCATIONAL STUDENTS
BASED ON WINTER 1989 FOLLOW-UP AND
CURRENT STUDENT SURVEY
FALL 1990 STUDENT DEMOGRAPHICS




The ABE and GED students were less likely than academic and vocational students to be employed before starting their program. The pattern of employment for interviewed ABE and GED students varied by sex, race and ethnic background as shown in Table AII.

**TABLE AII**
**EMPLOYMENT STATUS PRIOR TO ENROLLING**
**1989 COMMUNITY COLLEGE ABE/GED FORMER ABE AND GED STUDENTS**
**BASED ON WINTER 1989 FOLLOW-UP**

| | Total N=184 | Male N=68 | Female N=115 | Asian Pacific Islander N=43 | Hispanic N=17 | African American N=32 | Native American N=22 |
|---|---|---|---|---|---|---|---|
| Employed | 42% | 60% | 32% | 63% | 31% | 41% | 36% |
| Full-time | 27% | 46% | 12% | 37% | 19% | 22% | 22% |
| Part-time | 15% | 14% | 20% | 26% | 12% | 19% | 14% |
| Unemployed, Seeking Work | 14% | 18% | 12% | 14% | 31% | 22% | 18% |
| Homemaker | 18% | 0% | 29% | 19% | 25% | 6% | 36% |
| Disabled/Injured | 11% | 13% | 10% | 0% | 6% | 19% | 0% |
| Retired/Other | 14% | 8% | 18% | 5% | 6% | 12% | 9% |

Note: N=184 refers to the weighted total from the 182 interviews.

The unemployment rate among ABE and GED students starting college was consistently higher than the state's unemployment rate. The rate was especially high among Hispanics and African Americans.

Interviewed ABE and GED students varied, based on race and ethnic background, in the extent to which they worked or had child-care responsibilities. Native American, African American, and Asian Pacific Island students were likely to have more responsibilities for child-care and work than did white students enrolled in ABE and GED courses.

About 21 percent of those interviewed were from families where either a parent or sibling had previously earned a four-year college degree. Thus four in five would be considered first generation college students.

# APPENDIX B

# ANALYSIS OF ABE AND GED INTERVIEW METHODOLOGY

## INTERVIEW PURPOSE

The interviews used for this analysis were conducted by the State Superintendent of Public Instruction's (SPI) Adult Education and Literacy Programs office. They conducted the interviews for two purposes: 1) to elicit descriptive information about the personal, educational, and employment outcomes for former Adult Basic Education (ABE) and GED (General Educational Development)students, and 2) to provide qualitative analysis of student motivation and achievement, personal and family benefits, and program evaluation.

The interviews were timed to gather former students' impressions about a year and a half after they left the ABE or GED programs.

The State Board for Community College Education (SBCCE) staff used the results of interviews with the 182 former community college students drawn from a random sample of 700 such students for its analysis of the outcomes for ABE and GED students.

## POPULATION SELECTED

The population from which the community college interview sample was drawn consisted of those enrolled in 12 community college ABE or GED programs in winter 1989 who had not re-enrolled in those same programs between spring 1989 to winter 1990. The 12 colleges, listed in Table BI, were selected to represent the community college system as a whole. These colleges provide more than half the ABE and GED instruction in the state.

The population included only those former students whose records contained a phone number or address and a valid race code. The population of 4,008 represented 93 percent of the total former ABE and GED students at the 12 colleges. In other words, seven percent of the former student's records had either an invalid race code or were missing either a phone number or address.

Due to coding errors nearly half the population (46 percent) were English-as-a-Second-Language (ESL) students. ESL students, except for those who had left the ESL program for ABE and GED courses w[illegible] to be excluded from the survey because time and funds were unavailable for translating the questionnaire into the necessary first languages. The researchers had anticipated that about seven percent of the population would have been ESL students who progressed to ABE or GED classes. The high number in this population resulted from some colleges coding ESL courses as ABE courses for winter 1989.

As a result of including so many ESL students in the population, the respondents were split almost evenly between students who were identified as having limited English proficiency (51 percent) and non-limited English (49 percent).

SPI conducted the interviews with members of the community college sample as well as those from community-based organizations and Vocational Technical Institutes.

## INTERVIEW SAMPLE

Former ABE and GED students appear to be a highly mobile group, and therefore difficult to locate and interview. In a similar study conducted in Montana, the sample list was exhausted before completing the desired number of interviews, forcing the researchers to use the list of total current and former students to attain the desired sample size. In recognition of the mobility of ABE and GED students SPI generated a sample twice the size of the expected interview group for this study -- a sample of 700 for an expected 350 interviews.

Had the interviewers been able to complete 350 interviews the sampling error would have been plus or minus five percent, an acceptable sampling error for such surveys.

SBCCE divided the population of students who left the ABE and GED programs in winter 1989 into strata by race and ethnic categories before drawing the random sample for SPI. To assure large enough numbers for the analysis by race and ethnic group, SBCCE pulled a sample with 140 students in each race or ethnic category. Use of 140 resulted in purposeful over-sampling of all race and groups except Hispanics and whites.

## SAMPLING DISTRIBUTION

In July and August, 1990, ABE instructors, trained and on special contract for this purpose, conducted interviews with 182 of the former community college students from the sample of 700. Interviews were to be conducted face-to-face but some were conducted by phone. Interviewers found they were unable to reach many from the sample of 700 and others could be reached but failed to keep their appointments for interviews. Encountering these difficulties, the interviewers turned to their own class records to identify former students. They interviewed an additional 70 former community college students who were not from the random sample. About half were from the same cohort (left in winter 1989) as the random sample, the other half had enrolled in ABE or GED courses more recently.

The non-randomly sampled group tended to be considerably more successful in that they had completed the GED at more than twice the rate of those interviewed from the random sample. They were also more likely than those from the random sample to have continued enrollment after leaving the program.

These 70 non-randomly selected former community college students were **excluded from the SBCCE analysis**. Both the 182 interviewed from the random sample and the 70 interviewed from the non-random group plus others from Vocational Technical Institutes and community-based organizations were included in the analysis prepared for SPI, **Adult Basic Education, Student Follow-up Evaluation,** October 1990.

The SBCCE analysis was based only on the 182 interviews with students drawn from the random sample of 700. This appendix evaluates the extent to which generalizations from these 182 interviews can be applied to the entire population of students who leave ABE and GED programs.

Table B1 shows the population of individuals who were enrolled in winter 1989, the estimated sample and the number interviewed at each of the 12 community colleges participating in the study.

**TABLE BI**
**DISTRIBUTION OF POPULATION, SAMPLE AND INTERVIEW GROUP BY COLLEGE**

| College | Winter 1989 ABE Population | Estimated Sample | Est # to Interview | Actual Interviewed |
|---|---|---|---|---|
| Everett | 353 | 63 ( 9%) | 31 ( 9%) | 14 ( 8%) |
| Skagit Valley | 218 | 41 ( 6%) | 20 ( 6%) | 9 ( 5%) |
| North Seattle | 147 | 23 ( 3%) | 12 ( 3%) | 7 ( 4%) |
| Seattle Central | 275 | 83 (12%) | 42 (12%) | 33 (18%) |
| South Seattle | 112 | 27 ( 4%) | 13 ( 4%) | 4 ( 2%) |
| Centralia | 148 | 17 ( 2%) | 8 ( 2%) | 3 ( 2%) |
| Clark | 588 | 57 ( 8%) | 29 ( 8%) | 7 ( 4%) |
| Wenatchee | 130 | 25 ( 4%) | 13 ( 4%) | 1 (<1%) |
| Yakima | 532 | 99 (14%) | 49 (14%) | 26 (14%) |
| Spokane Falls | 701 | 116 (16%) | 58 (16%) | 38 (21%) |
| Walla | 634 | 97 (14%) | 48 (14%) | 19 (10%) |
| Tacoma | 329 | 53 (8%) | 27 ( 8%) | 21 (12%) |
| Total | 4,167 | 700 | 350 | 182 |

## Quality of Phone and Address Information

The State Board for Community College Education obtained the names, addresses and phone numbers of winter 1989 completers from the college transcript files. Previous studies have shown that up to half the transcript directory information is out-dated a year after students leave the college. It fell to the interviewers to update the contact information through local directories. Clearly this strategy was inadequate for such a mobile population.

## Potential Sources of Error

Four sources of potential error affect the quality of results from any sample survey: 1) sample coverage of the population being surveyed; 2) sampling error; 3) measurement error; and 4) response rate. The efforts to overcome each of these errors are described below along with the description of how the uncontrolled errors may have influenced the ability to generalized from the sample to the population.

**Non-coverage error:** Seven percent of the sample was excluded due to lack of race or directory information. This exclusion constitutes a small non-coverage error. Though small, the error created by not including these students was about twice the error rate typically experienced in SBCCE studies. ABE and GED students were twice as likely as other student groups studied to have missing directory information.

The mobility of the population lead to a failure to reach many in the sample, a significant non-coverage error. Only 26 percent of the sample was interviewed. It is highly likely that those who could not be reached had different outcomes than those interviewed.

**Sampling error:** Sampling error is the discrepancy between the population parameter, which is constant and unknowable, and the sample estimate which can change depending how well those in the sample represent the population. This discrepancy is the result in random sampling. While the goal of random sampling is to increase the likelihood that those sampled represent the entire population, it is important to keep in mind that few, if any, samples are free of sampling error.

A key factor in this sampling plan was the distribution by race. The study assumed that members of different race and ethnic groups could have different motivations and outcomes as a result of participating in the ABE and GED programs. Thus the sample design called for interviews with 70 students from each race and ethnic group. The final sample as shown in Table BII varied from that plan.

**TABLE BII**
**INTERVIEWS CONDUCTED BY RACE AND ETHNIC GROUP**

| | Actual % | Actual # | Valid % | Planned % |
|---|---|---|---|---|
| White | 14% | 25 | 18% | 20% |
| Hispanic | 9% | 17 | 12% | 20% |
| African American | 17% | 32 | 23% | 20% |
| Asian Pacific Islander | 24% | 43 | 31% | 20% |
| Native American | 12% | 22 | 16% | 20% |
| Unknown | 24% | 43 | Missing | Missing |

The sample excluding students with unknown race (Valid Sample) falls short of the equal sampling proportions by ethnicity. In fact, only the whites and African Americans are close to the proportions of 20 percent. Hispanics are the most under-represented in the interview group, with only 17 (12 percent) Hispanics interviewed. Asians were over-represented in the sample with 43 (31 percent) Asians interviewed.

Selection bias based on race or ethnic background may have influenced the interviewers as they attempted to reach students from the sample list.

To adjust for both the purposeful under-sampling of whites and Hispanics and the over-sampling of Asians, African Americans and Native Americans and the unplanned variations in the percent of each group actually interviewed, SBCCE weighted the interview results before analysis. SBCCE used the following weights:

| | |
|---|---|
| Asian | .19 |
| African American | .35 |
| Native American | .31 |
| Hispanic | 1.45 |
| White | 3.60 |

No weightings were employed to adjust for the over-sampling of former ESL students. The sampling error for these interviews is likely greater than that typically found in a well designed survey or interview process. The error is created in part by the variation in ability to complete interviews with each race and ethnic group and the number of ESL students in the sample.

While the sampling error can not be quantified due to the non-random way in which the sample was actually obtained, it is important to note that if other factors had been well controlled the final sample size would have resulted in a sampling error of plus or minus eight percent.

**Measurement error:** This factor includes errors created when the questions asked of respondents do not measure what the researchers intended, when interviewers asked the question in a manner which can be misunderstood, and when answers are not accurately recorded by the interviewer or data entry staff.

The instrument and interview process were field tested in an Oregon adult education program. Such field testing helps to assure that the questions are generally meaningful to the population.

The SPI contract researcher, John Mahaffy, recruited ABE teachers as interviewers. He trained all interviewers before the interviews began to assure that the questions were asked clearly and that results were recorded accurately. Interviewers recorded the data, except narrative responses, on forms that could be scanned.

Typically managers of research projects based on face-to-face interviews contact a small percentage of those interviewed to assure that the interviews are conducted according to the research design. This quality assurance step was not included in the design of this study.

Even with pilot testing, training of interviewers, and confirming contracts, errors of measurement arise, especially when responses can be unstable or transitory -- based on changing moods or feelings at the moment -- or different cultural perspectives. Students were asked to provide an assessment of goal attainment and provide opinions on a range of subjects related to importance of various goals, quality of instruction, degree of satisfaction, etc. Respondents may have given answers that reflected a transitory mood, a misunderstanding of the question or a cultural perspective.

The inclusion of so many non-native speaking students may have resulted in difficulty in interpreting some questions. It is possible that certain questions did not measure what was intended because of cultural differences in responses. This type of measurement error is referred to as correlated error, in that the answers for non-native speakers tended to be more positive than for those of native speakers of English. It is difficult to ascertain whether true differences exist between the two groups or whether their responses were based on misunderstanding the questions or culturally based response patterns.

It is clear from the narrative responses that in the interviews some former students regardless of race or ethnic background could not understand all of the questions. Misunderstanding was apparently due to difficulties in understanding concepts rather than confusing questions. When respondents have difficulty understanding questions, there is reason to assume that some measurement error exists.

**Response rate:** The response rate for the former ABE and GED students from the random sample group was lower than expected, 26 percent rather than 50 percent. Even at the 50 percent rate, response rate error could be considerable. That is, those not interviewed could have substantial differences from those who were interviewed.

Given the low response rate, it is important for the analyst to speculate on the likely differences between respondents and non-respondents. Refusals to be interviewed were rare. Low response was primarily due to not being reached (mobility) or not keeping an interview appointment (dependability). To a lesser degree the low response rate resulted in the typical problems of potential respondents not having enough time to meet an interview. In some cases busy respondents were interviewed by phone.

Those who kept their interview appointments may be the more dependable and goal-attaining students. On the other hand, those who attained their goals from the community college ABE and GED program may have been, at the time of the interview, too busy to be interviewed. Successful students may also have been the most likely to have moved from the area and thus not contacted for interviews. Given these possibilities, the impact of non-response error can not be clearly specified.

Due to the low response rate, there were insufficient numbers of respondents to allow reasonable analysis by race and ethnicity in some cases.

## Conclusions

The sources of error in these interviews were considerable. It would be inappropriate to generalize from the interview group to the entire population of students who left the ABE and GED programs after winter 1989. It is likely, due especially to the over-sampling of ESL students, that those interviewed represent the more successful students from the population studied.

The inclusion of limited English speaking students affected the interview results in two ways. First, over-sampling ESL students probably increased measurement error from culturally based misunderstandings. Second, the ESL students interviewed achieved considerably more than others interviewed. Thus, it is likely that a sample drawn with only ABE and GED students would have less evidence of goal achievement than found in this study.

Former ABE and GED students are an extremely difficult group to interview successfully. The SPI staff and its contractor, John Mahaffy, and the ABE teachers who interviewed the students are to be commended for attempting this difficult research project. This initial study will no doubt inform future research projects and stimulate valuable discussion about the outcomes of these programs.

## Recommendations for Future Studies

Future research of this population must take into account the difficulties encountered with this project. Changes recommended for the future are:

- Include only ABE and GED students in the population by assuring that the data base does not contain ESL courses coded as ABE courses.
- Attempt to update phone numbers and addresses from a central office. A former student may have moved from his or her community college region and be available for interview, but not within the region of the original college. US West directory assistance can be helpful in this process. Also a "prior letter" sent to all in the sample, with a 1-800 number to update the phone number may also be helpful. This strategy has limited benefits for former students who remain illiterate.
- Assure that interviewers not engage in substitution should they be unable to meet their quota.
- More rigorous pre-testing of the questions with given ethnic and racial groups should be undertaken to assess whether the interpretations of the questions fit the intent so that the researcher knows whether the answer reflects true differences between groups or merely a perceptual or cultural-based response pattern difference.



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